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FinBook Yawuru Nagulagun

An identification catalogue for dolphins in Roebuck Bay



SECOND EDITION - 2024

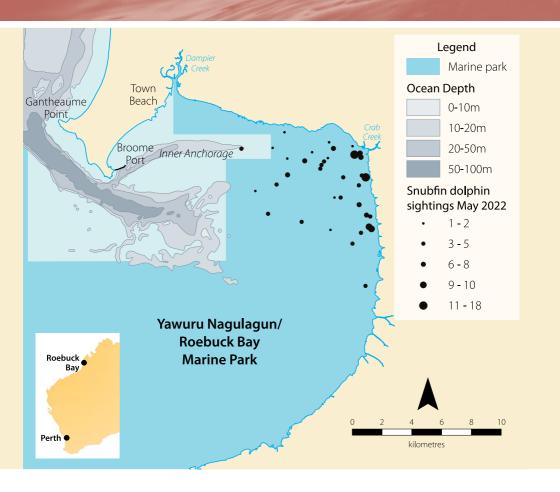








FinBook Roebuck Bay



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Setting the scene – Yawuru Rangers Jason Richardson, Yawuru Nagulaburu Senior Ranger

Turquoise waters and sandy beaches...from the pindan plains to the mangroves and the mudflats...creeks, reefs, rocks, wetlands, saltmarshes, seagrass...sea country...green turtles, flatbacks, hawksbills...dugong...barramundi, benthic bounty....shorebirds, shellfish, sawfish, sea snakes, salmon, walga-walga...snubfins... sea country...Yawuru country...Yawurungany Nagulaburu.

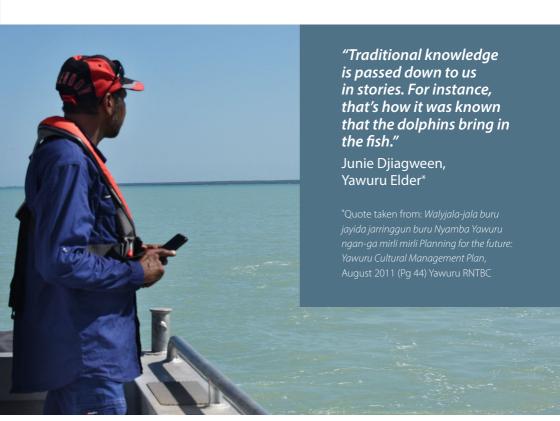


Yawuru – Traditional Owners of the bay

For thousands of years, Yawuru people have lived along the foreshores of Roebuck Bay, part of the Yawuru traditional estate. Roebuck Bay is also known as Yawuru Nagulagun, which means Yawuru sea Country, and is a place of exceptional value. Our connection and custodianship of this Country has continued for countless generations to the present day. Today we champion the protection of Roebuck Bay and manage it for the future.

The Yawuru Nagulagun / Roebuck Bay Marine Park is managed jointly by the Yawuru Native Title Holders and the Western Australian Department of Biodiversity, Conservation and Attractions. Parks and Wildlife Service.

The Yawuru story is one of resilience and pride. We recognise all the old people who carried the stories from Bugarrigarra (The Dreaming), walked our lands, fished and hunted, and survived from the water places.



Snubfins are feeding on yunu (baitfish) in the creeks same as the walga-walga (bluenose salmon). We need to monitor this iconic species because whatever happens to them may also affect us." Jason Richardson, Yawuru Nagulaburu Senior Ranger

In September 2016, Yawuru Registered Native Title Body Corporate (RNTBC), the State Government and other relevant parties signed an Indigenous Land Use Agreement (ILUA) to provide for the creation of the marine park over specified areas of Roebuck Bay

Roebuck Bay has some of the most productive tropical intertidal flats in the world, making it very important for Yawuru fishing, hunting and gathering of sea foods. Seagrass and macroalgae communities provide food for protected species such as the nganarr (dugong) and gurlibil (turtles). Marine mammals such as the Australian snubfin dolphin and Australian humpback dolphin frequent the waters of Roebuck Bay and humpback whales pass through on their annual migration. Many of the animals that live and feed in the bay such as dolphins, gurlibil and nganarr are considered indicator species. This means that if there are good population numbers of these animals, there is likely to be good abundance of the fish and seagrasses they eat and therefore the bay is likely to be in good health.



"I've been tasked with caring for snubfins. I was asked by an elder to look after them before she passed."

Dean Mathews – Nyamba Buru Yawuru Assistant Manager – Environmental Services

Dolphin species seen in Yawuru Nagulagun Roebuck Bay

Snubfin dolphin (Orcaella heinsohni)

The Australian snubfin dolphin is dark on top, a lighter shade of brown around the middle and the

belly is white. Depending upon the light and water colour this species can look as though it is white to dark brown. It has a rounded forehead with no beak, unlike most other dolphin species in Australia. It has a particularly small rounded dorsal fin, and a distinct crease around the neck, which is quite flexible. The average length of this animal is about 2m. As they age they become very scarred all over their bodies from interactions with each other and sharks

Snubfin dolphins were formally described as a species in 2005 and are now known to be endemic to Northern Australia and Papua New Guinea. In Western Australia, snubfins are mainly found in the Kimberley. In Roebuck Bay, the population size of snubfin dolphins is estimated to be approximately 100, making it the largest known population in the Kimberley region. This population is thought to reside in the Yawuru Nagulagun / Roebuck Bay Marine Park and Kimberley Ports Authority waters and occasionally visit surrounding areas such as Cable Beach



Other dolphin species seen occasionally in Yawuru Nagulagun Roebuck Bay

Bottlenose dolphin (*Tursiops aduncus*)

Bottlenose dolphins are sleek and streamlined, have a prominent dorsal fin, and can vary in size, shape and colour depending on where they are found. In general, they have



a dark grey back and a light grey belly. They have a short, thick beak. The smaller Indo-Pacific bottlenose dolphin reaches a maximum length of 2.7m and weighs up to 230kg. They are the most common dolphin found in WA coastal waters. A larger, offshore species (*Tursiops truncatus*) is found further from the coast. *T.aduncus* is generally more coastal.



Humpback dolphin (Sousa sahulensis)

The most obvious features of the humpback dolphin is their long (often white-tipped) thin beak, small triangular dorsal fin and distinctive hump in front of the dorsal fin. The maximum length is less than 3m. The colour of these



animals varies by age and area and they may appear quite pale, but they can darken to a lead grey colour as they age. The undersides are pale and the dorsal fin may be white in older animals and males.





Previous page Snubfin dolphin. **This page** Bottlenose dolphin. Photo — Humpback dolphins. *Photos — Holly Raudino*. Illustrations — *R.Swainston/anima.net.au*

Spinner dolphin (Stenella longirostris)

The body is usually slender with a relatively flat melon and long, well defined-beak with a black tip. There is an eye-to-flipper stripe that extends from the eye to the mouthline. The dorsal fin is positioned



mid-back and is relatively tall and either slightly falcate (sickle-shaped) or triangular. Their colouration is three toned with a dark back, grey sides and a paler underside but they may appear all grey. They are not always as acrobatic as their name suggests. A dwarf subspecies (S. I. roseiventris) can be found in tropical waters and only reaches 1.5m in total body length.



False killer whale (Pseudorca crassidens)

This species has a long, slender body and narrow, tapered head with a rounded snout. Its dorsal fin is high and curved and the narrow, tapered flippers have a distinct hump or elbow on the front edge. The body is black with a grey chest,



although the sides of the head are sometimes light grey. Average length is 4.5–5.5m. They visit Roebuck Bay seasonally. Sighting data indicates that false killer whales are regular, year-round inhabitants of coastal areas of northern Australia. A recent study of the genetics has shown they are a separate population to those offshore and therefore they may be more vulnerable to pressures in coastal waters.



This page Spinner dolphin. *Photo* — *Julian Tyne*. False killer whale. *Photo* — *Holly Raudino*.



Snubfin population census

A census of snubfin dolphins was undertaken in Yawuru Nagulagun/Roebuck Bay Marine Park (YNRBMP) in Yawuru season Wirralburu (May) 2022. Photographs were taken of the dorsal fins of all dolphins to identify individuals based on the unique shape and markings on their fins. This information can be used to assess the number of dolphins using the Bay over the time period of the census and to gather life history information on individual snubfins. Vessels covered a total of 754 km over four days (2-4th and 6th May 2022), equating to 54 hours on the water. Of this 439 km and 32 hours was dedicated to searching for dolphins along transect lines.

In addition to the dedicated DBCA vessels, one of the Commercial Tour Operators (CTOs) took out Dolphin Watch volunteers to record dolphin sightings on Wednesday 4th May. This vessel recorded a sighting of bottlenose dolphins (*Tursiops aduncus*) as well as several snubfin dolphin sightings. The overall census resulted in sightings of 35 dolphin groups that included 169 dolphins (note that this includes resightings of some individuals over multiple days and while 113 were found along transects, 56 were not). This resulted in an encounter rate of 0.22 dolphins per km including when off transect lines and outside the pre-determined survey area or 0.25 per km only along the transect lines. A higher density of snubfin dolphins was found around Crab Creek and the eastern side of the Bay over the extensive mud flats in shallow water .

Top: Vaughn Lee, Jason Richardson (boat driver), Luke Puertollano, Ellen D'Cruz (L-R) on survey. *Photo — Marta Espinheira.*





A total of 87 individual snubfin dolphins were observed in Roebuck Bay during the 2022 census. Most (72; 83%) had scars or marked dorsal fins, making it possible to recognize them as individuals and potentially recognisable in the future if the marks remain stable. Some marked individuals were sighted over multiple days (e.g., resightings) and 32 (44%) have been seen in previous surveys.

An additional 15 individuals with unmarked 'clean' fins were identified using temporary body markings (e.g. lesions, teeth rake marks which are known to fade quickly over time) or as calves maintaining close proximity and 'baby position' with their mother, despite not having distinctive markings themselves.

Results of the 2022 census were similar to the 2019 census where 80 (83%) marked individual dolphins were photographed and identified (96 including 'clean' fins and calves).



Season calendar from the *Cultural Management Plan* for Yawuru coastal country and the Yawuru Conservation

Estate, Yawuru RNTBC 2011

Top left: Peter Roe and Luke Puertollano on survey. *Photo* — *Holly Raudino*.

Top right: Leroy Pigram, photographing snubfins in his sea country. *Photo — Ellen D'Cruz*.

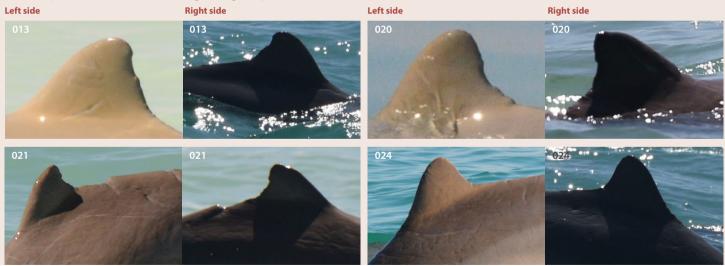
Snubfin dolphin catalogue

The number at top left is the identification code given to each dolphin by researchers. Names are included if available.

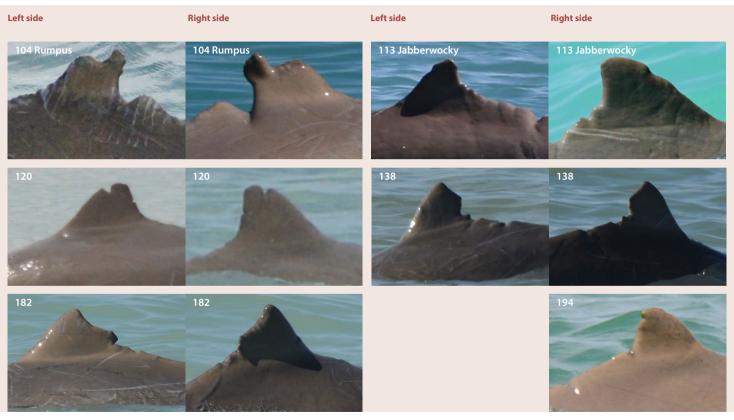
- (F) indicates adult female due to presence of a dependent calf
- (J) indicates an immature individual or juvenile (weaned) This is based on body length, which is smaller than an adult.

This photo identification catalogue was prepared by Nancy Murray, Ellen D'Cruz, Corrine Douglas, Holly Raudino with valuable photo contributions from Deb Thiele and Alex Brown.

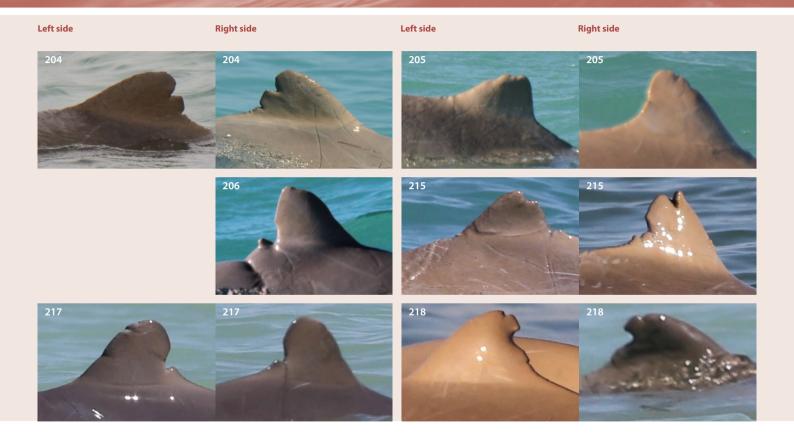
During their life they get scars, nicks and notches on their dorsal fin which can be used as natural tags to tell individual dolphins apart. This means we can build profiles of individuals including calving and preferred associates.

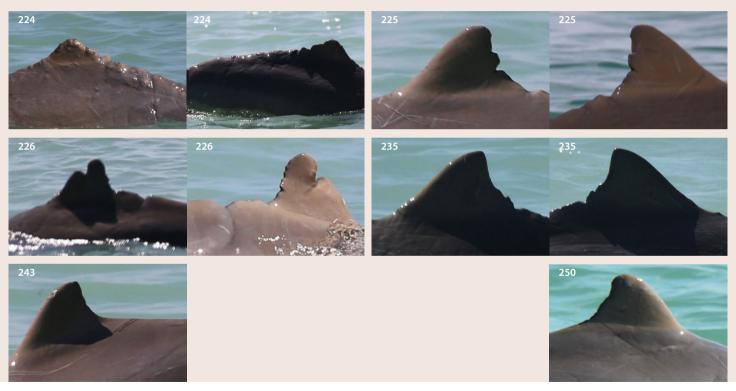




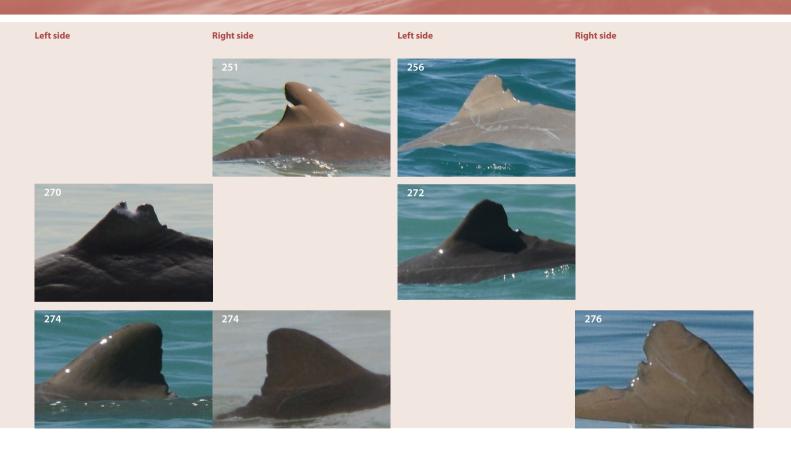


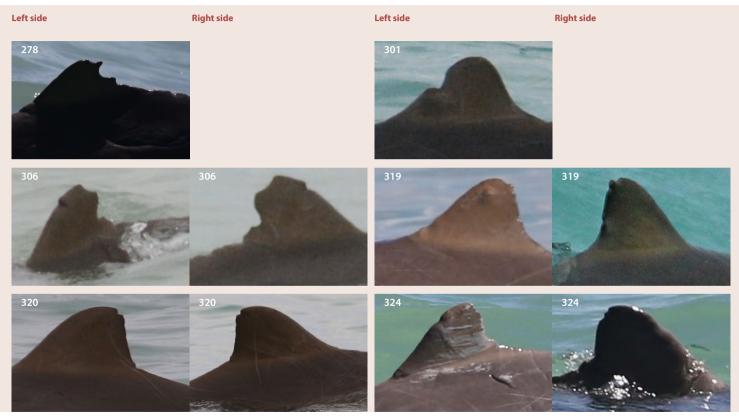
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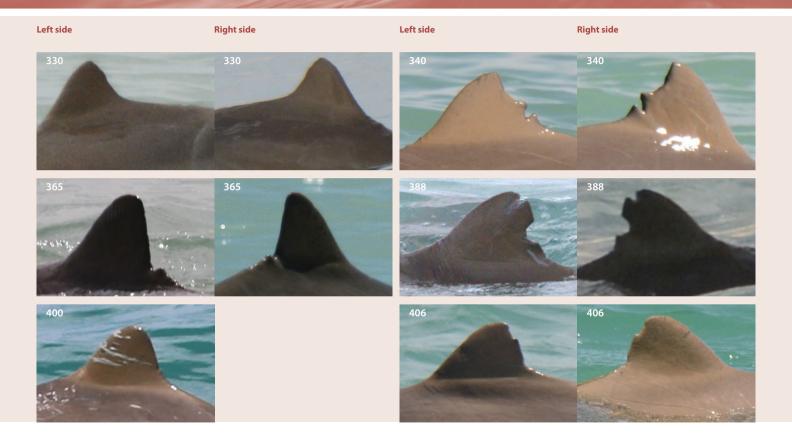


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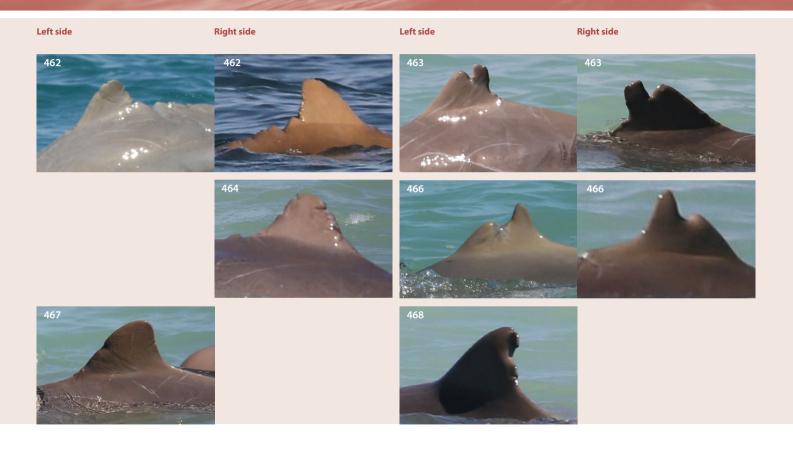


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Left side Right side Left side Right side 477 477 478 481 480



Bottlenose dolphin catalogue

The number at top left is the identification code given to each dolphin by researchers. Names are included if available.

- **(F)** indicates adult female due to presence of a dependent calf.
- (J) indicates an immature individual or juvenile (weaned) This is based on body length, which is smaller than an adult.

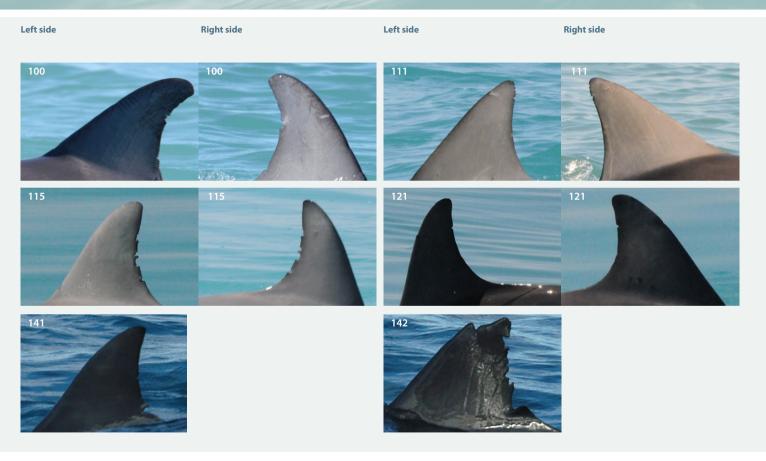
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During their life they get scars, nicks and notches on their dorsal fin which can be used as natural tags to tell individual dolphins apart. This means we can build profiles of individuals including calving and preferred associates.

Right side Left side Right side Left side 001 006 003 007



FinBook Roebuck Bay – an identification catalogue for dolphins in Yawuru Nagulagun / Roebuck Bay





Left side Right side Left side Right side 415 411 418 calf 419 418 calf 420 Left

Dolphin stories

Grunge

Grunge, also known as 025, is really easy to spot. Most of her dorsal fin is missing, with only a small piece left, flopping on one side. Other marks may happen when snubfins rub against mangrove trees or rocks to rid themselves of barnacles, or during rough play and courtship. Grunge was first sighted in May 2007 with a calf and she has been seen repeatedly over the intervening 15 years. In the 2019 census she was sighted with a new calf. In the 2022 census she was sighted on three of the four survey days.



Jabberwocky

Jabberwocky, or 113, is a female snubfin with a deep injury to her back. Snubfins, like all dolphin species, have amazing healing powers and wounds like this heal up quickly. These markings allow us to identify each individual dolphin just by taking photos. She was first sighted in May 2007 and most recently in the 2022 census much to the delight of all onboard!



Rumpus

Rumpus, or 104, is perhaps the toughest snubfin dolphin in Roebuck Bay. He has suffered horrific injuries to his dorsal fin and tail yet continues to survive. A study in 2010 showed about 75 per cent of Roebuck Bay's snubfins had injuries caused by rough play, courtship, sharks, boat strike and entanglement with fishing line and nets. The State Government introduced commercial fishing licences in Roebuck Bay and removed gillnets in November 2012, and it is hoped these measures will help reduce the number of dolphin injuries and entanglements.



Be Dolphin Wise

It's easy to help care for dolphins in Roebuck Bay by following these simple rules:



Go slow for those below – slow down for dolphins – dolphins often form resting groups, so keep an eye out for them and slow down if you spot them.



Let dolphins feed themselves – feeding dolphins is illegal and can leave them vulnerable to entanglement from fishing line, boat strikes and disease.

* Bunbury Dolphin Discovery Centre and Monkey Mia Shark Bay are licensed for supervised feeding



Support a Clean Marine environment – take your rubbish home – dolphins, particularly calves, can get tangled in fishing line. Dispose of unwanted fishing line responsibly.



Enjoy dolphins from a distance – dolphins have sensitive hearing and are easily disturbed by human activities. Maintain your distance where possible and move away if the dolphin is disturbed. Keep calves safe. Keep clear of mothers and calves so they are not separated.







Department of Biodiversity, Conservation and Attractions











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Snubfin dolphin. Photo — Kevin Smith

Information current as at March 2024.

This publication is available in alternative formats on request.